

C. W. Hawkes. Sheet 1 of 2 Sheets.
Printing Press.
No 7855. Patented Dec 24. 1850

Fig. 9.

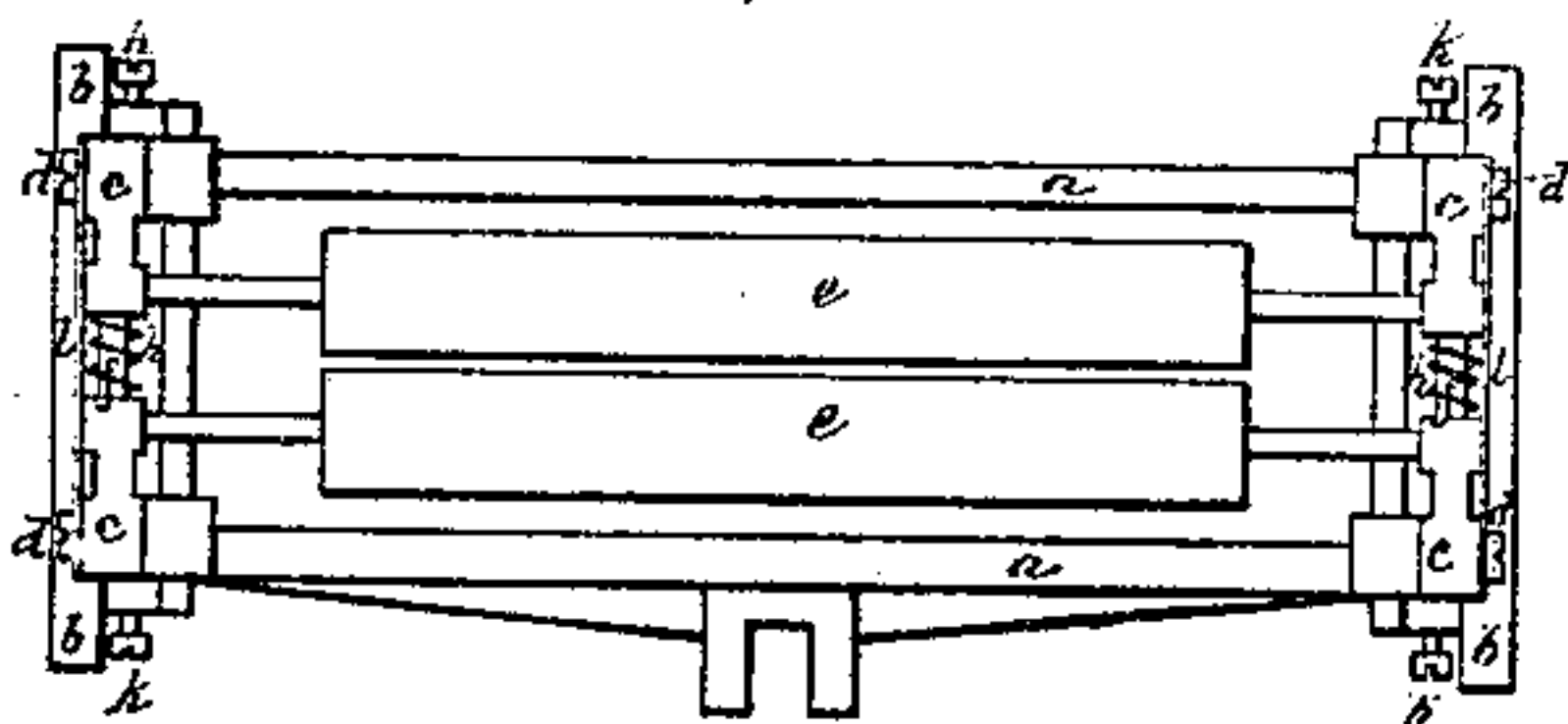


Fig. 10.



Fig. 11.



Fig. 12.



Fig. 13.

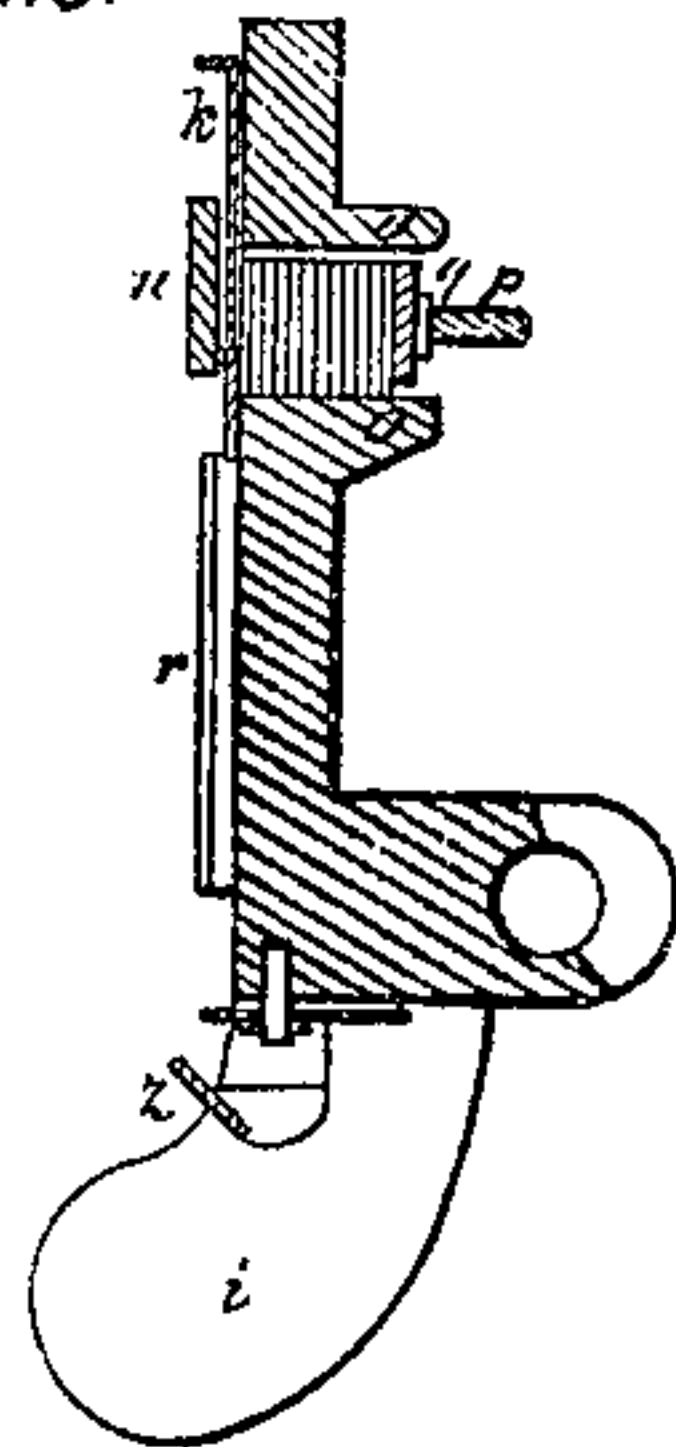


Fig. 3.

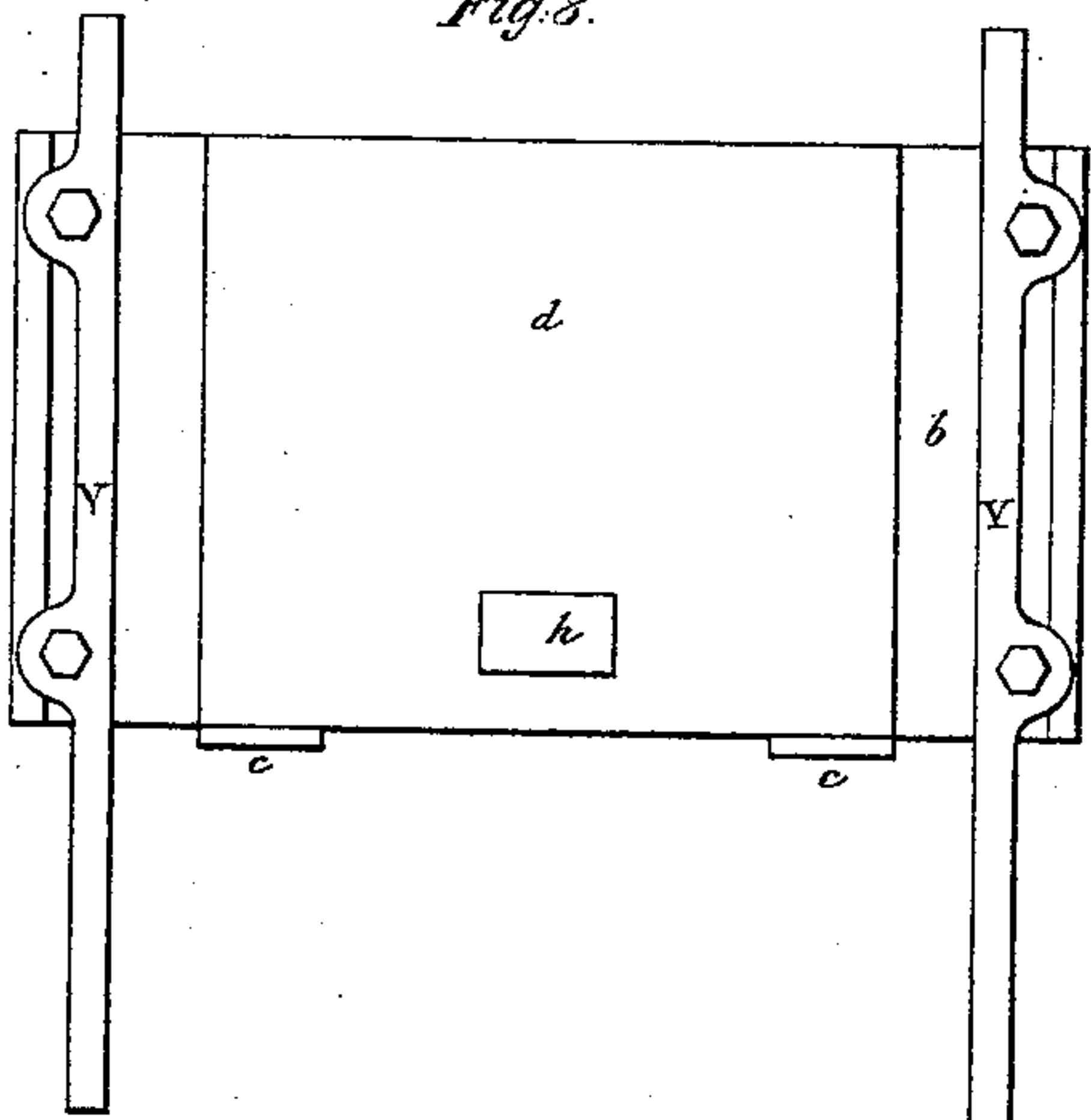


Fig. 7.

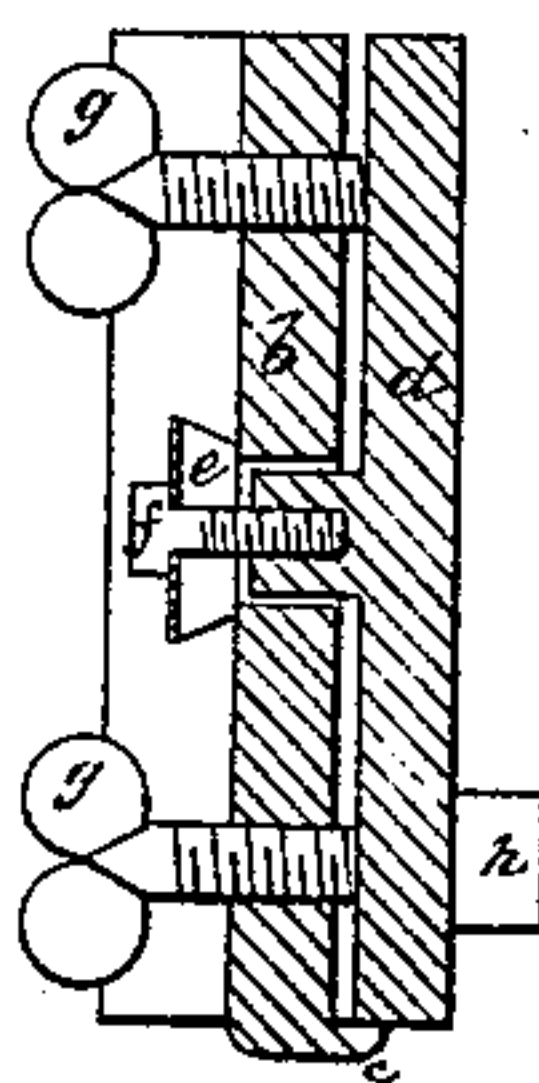


Fig. 6.

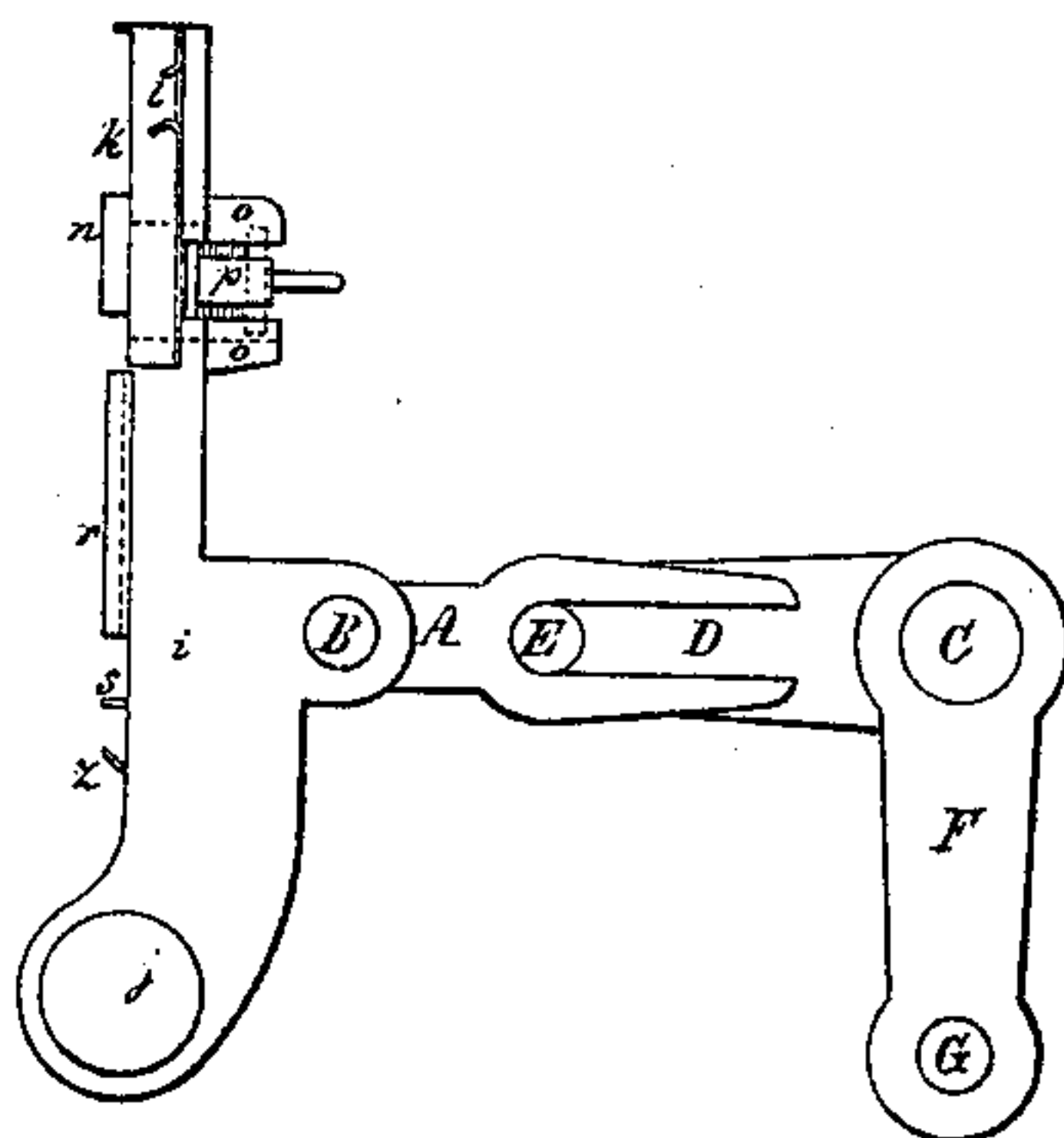


Fig. 5.

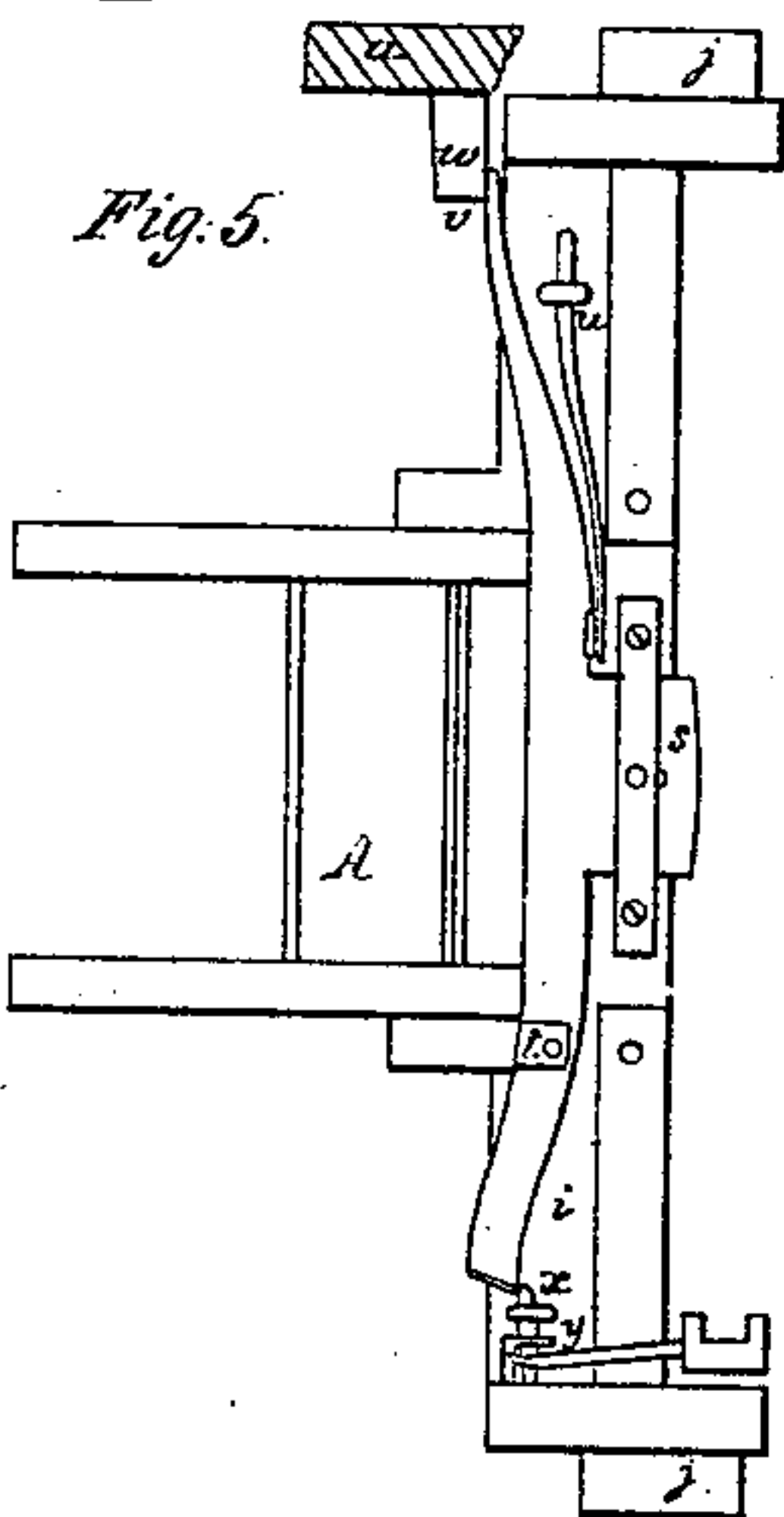


Fig. 4.

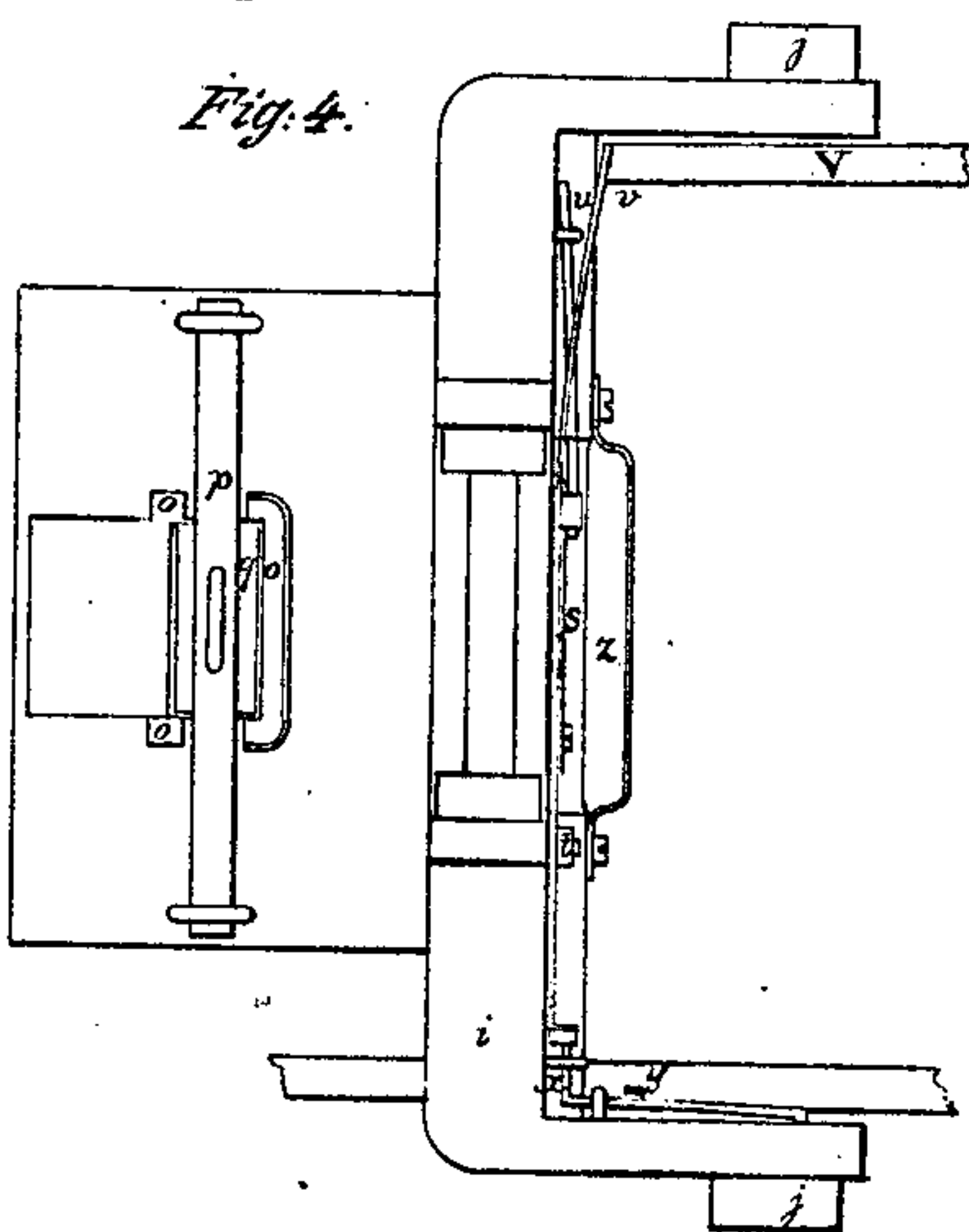
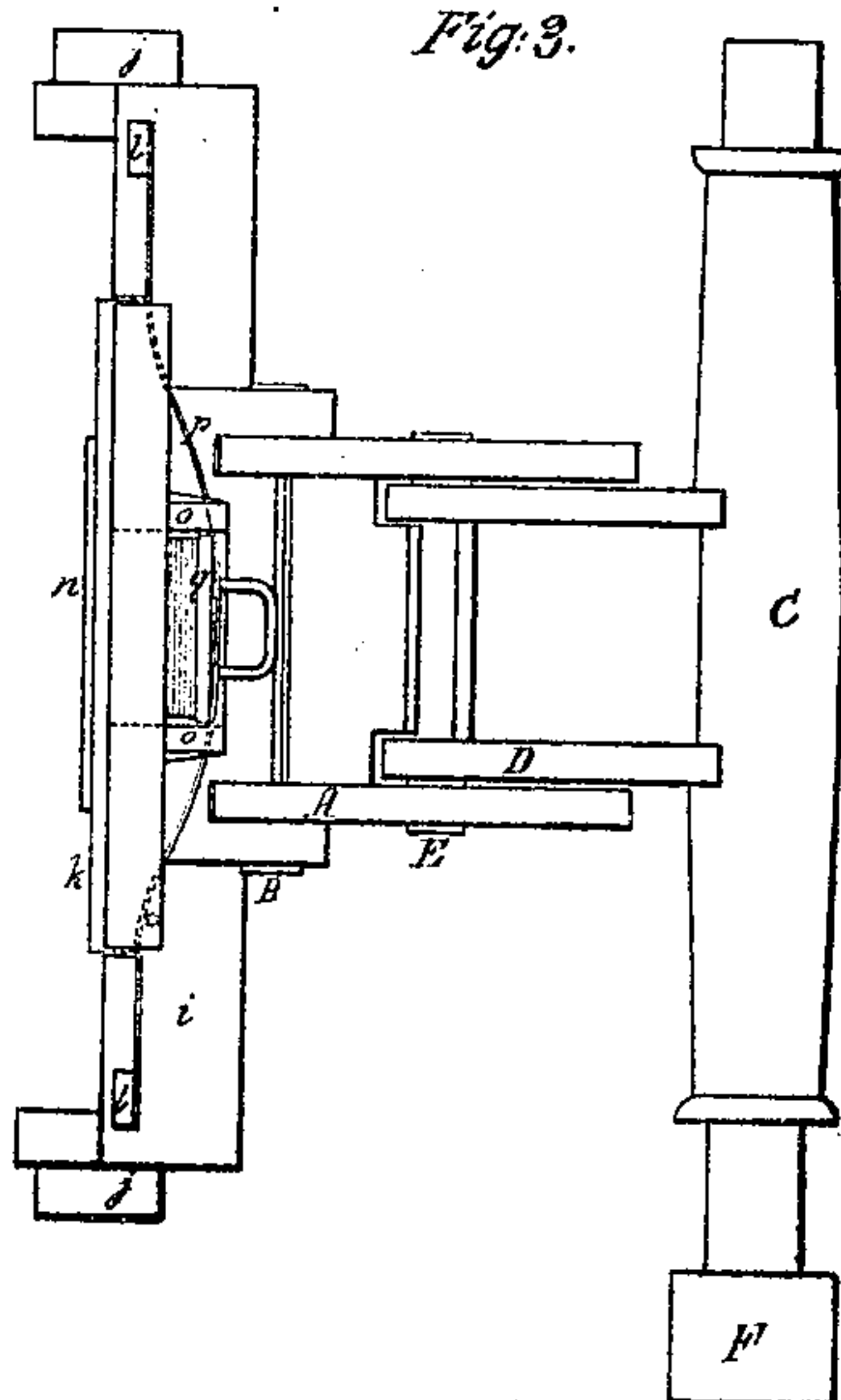


Fig. 3.



C. W. Hawkes. Sheet 2. of 2. Sheets.
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Fig. 2.

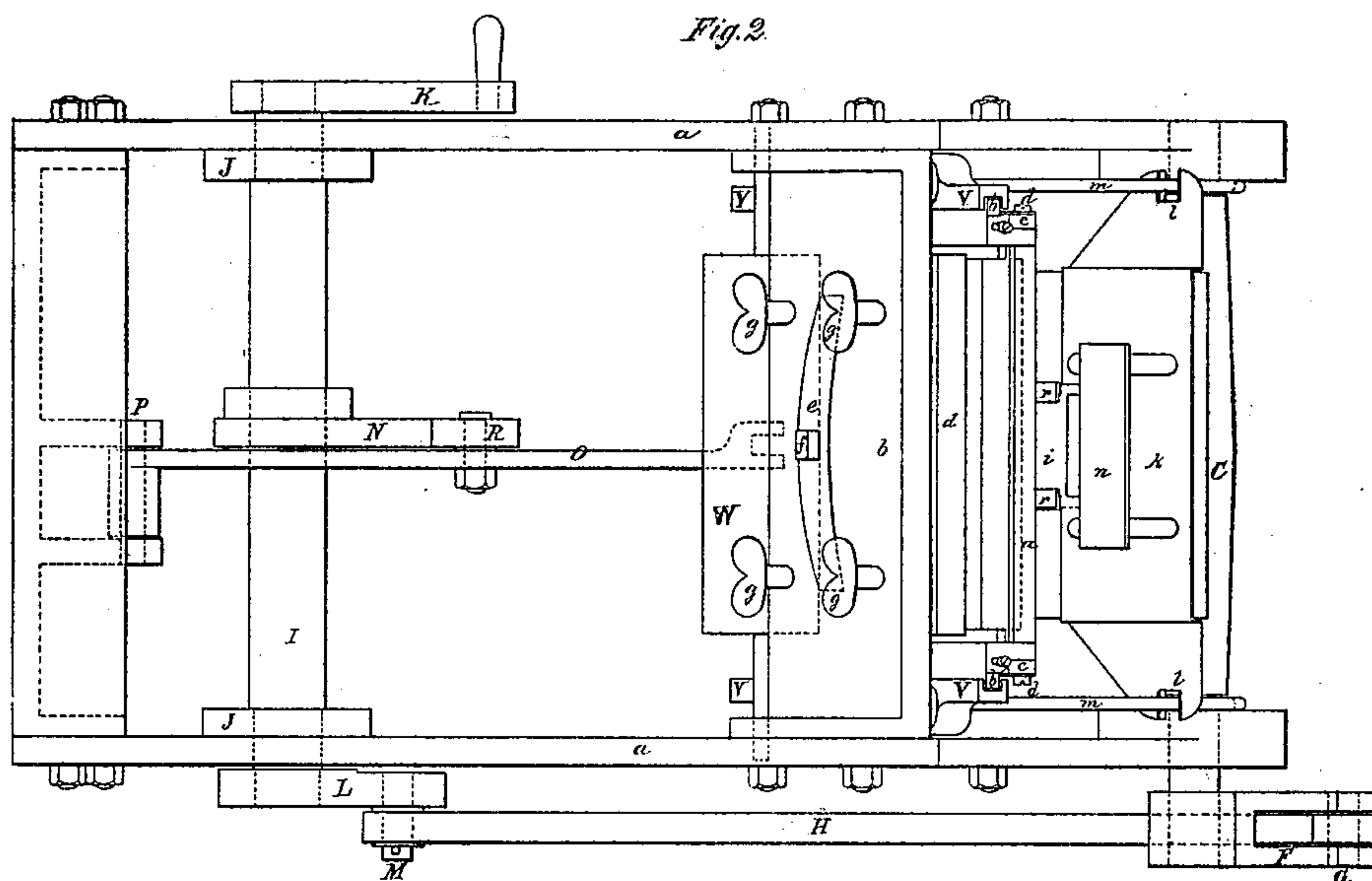
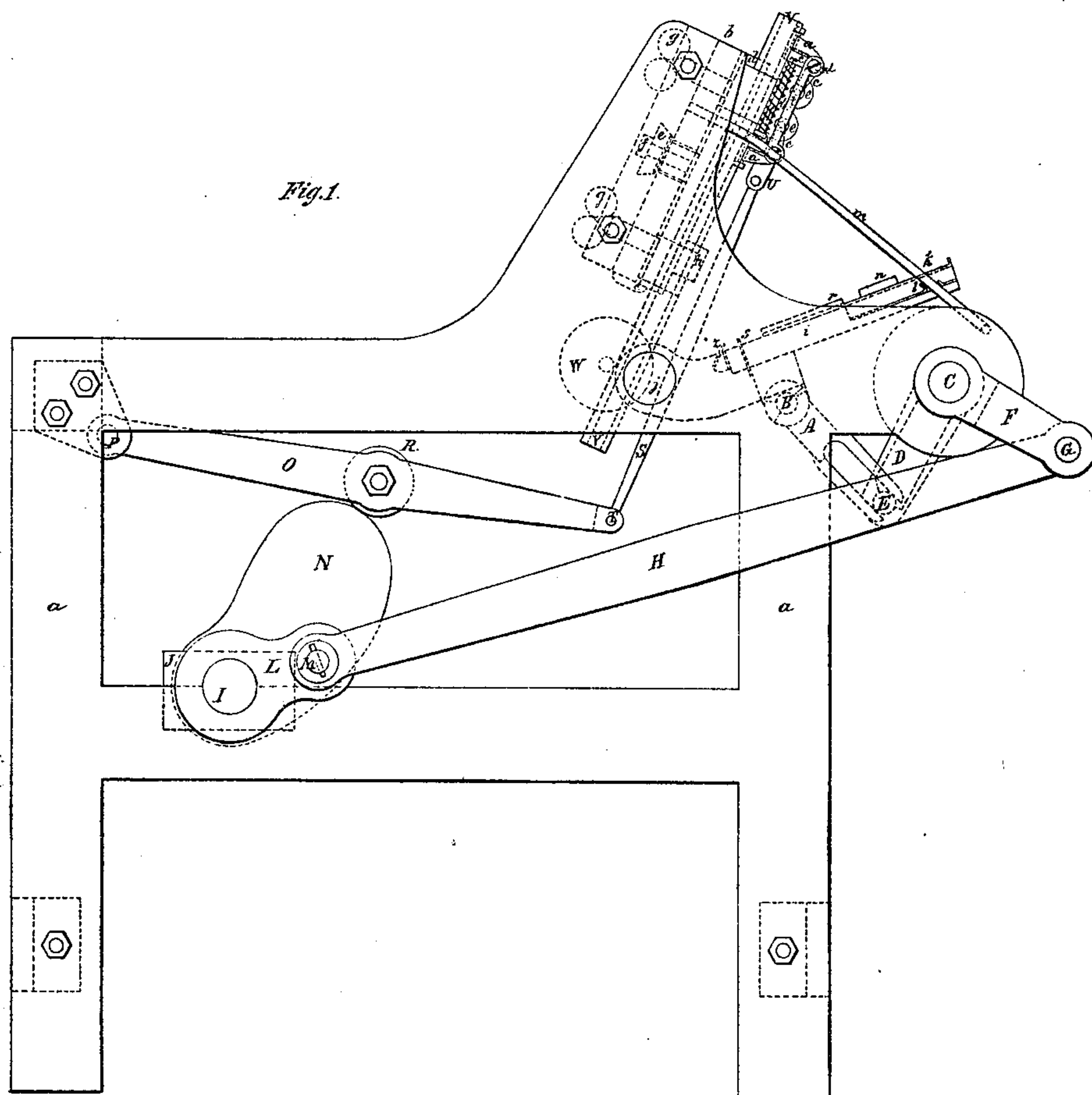


Fig. 1.



UNITED STATES PATENT OFFICE.

CHARLES W. HAWKES, OF BOSTON, MASSACHUSETTS.

PRINTING-PRESS.

Specification of Letters Patent No. 7,855, dated December 24, 1850.

To all whom it may concern:

Be it known that I, CHARLES W. HAWKES, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Printing-Presses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side elevation. Fig. 2 is a plan. Figs. 3, 4, 5 and 6 are different views of the platen. Figs. 7 and 8 represent the bed and back bar. Figs. 9 and 10 represent the carriage and inking rollers. Figs. 11 and 12 represent the knees which support the inking rollers.

The same letters refer to like parts in all the figures.

My improvements are applicable to printing any size of sheets large or small but more particularly for small job work and card printing.

To construct this machine a substantial frame *a*, *a*, is formed of a suitable capacity to contain the machinery as seen in Figs. 1 and 2. In Figs. 1, 2, 7 and 8 will be seen a girt or back bar *b*, with a projection *c* at the lower edge. In front of the back bar is a bed *d*, resting on the projection *c*, and secured in its position by the spring *e*, and bolt *f*. There are four set screws *g*, *g*, taped into and extending through the back bar for the purpose of leveling the bed and altering the impression. Directly in front of the bed is the type *h* secured by any of the usual methods. In Figs. 1, 2, 3, 4, 5 and 6 will be seen the platen *i*, made to swing up and down in the frame on the journals *j*. In Figs. 1, 2 and 6 there is a slide *k* the thickness of a thin card made to slide up and down on the platen a sufficient distance to slide out a large sized card; at each end of this slide there is a slot *l*, fitted to play loosely up and down on the rods *m*, said rods are seen in Figs. 1 and 2 extending obliquely from the back bar to the forward part of the frame. Over the slide *k* there is a plate *n* secured to the platen and giving the slide a chance to play loosely under it. There is a hole the size of a large card made through the platen directly under the plate *n*, and a box *o* made around it in which the cards are placed to be printed as seen in Figs. 13, 3, 4, and 6. Under the

cards is a spring *p* and a follower *q* which press the cards firmly against the plate *n*. In Figs. 1, 2 and 6 will be seen the guides *r* which guide the cards as they slide out to be printed. In Figs. 3 and 6 the cards are represented in the box by fine straight lines. In Figs. 1, 4, 5 and 6 will be seen the gage *s* for the cards to drop against. In Figs. 4 and 5 the gage is hung on a pin at *t* with a spring *u* to throw it down so as to give the cards a chance to drop off. When the platen drops the lever *v* attached to the gage strikes the trip *w* on the frame and throws the gage up and at the same time a catch *x* at the other end drops in and holds it in that position while the card is carried up to be printed; when the platen rises to its extreme height there is a wire at *y* which throws the catch off and gives the gage a chance to fall back again. Directly below the gage is a thin plate *z* (Figs. 1, 4 and 6) to guide the cards as they drop off. In Figs. 1, 3, 5 and 6 will be seen a fork lever *A* attached to the under side of the platen by the pin *B*. In Figs. 1, 2, 3 and 6 is a rocker shaft *c* inserted at the forepart of the frame and near the center of said shaft is a rocker arm *D* with a pin *E* in the outer end; both ends of said pin project out by the rocker arm and are fitted to play loosely in the fork of the lever *A*. At one end of the rocker shaft and outside of the frame is a fixed lever *F* with a pin *G* in the lower end by which the pitman *H* (Figs. 1 and 2) is connected to the said lever. In Figs. 1 and 2 near the back end of the frame is the main shaft *I* fitted to turn in the boxes *J*, *J*, with a driving pulley or crank *K* on one end and a crank *L* on the other end connected to the pitman *H* by the crank pin *M* and near the center of said shaft is a cam *N*. Near the center of the frame and nearly over the cam is the cam lever *O* with one end attached to the upper girt of the frame by the pin *P* for its fulcrum and upon one side of the said cam lever is a roller *R* made to roll upon the top of the cam *N* thereby throwing the lever up and down at every revolution of the shaft. There is a connecting rod *S* (Fig. 1) the lower end of which is attached to the forward end of the cam lever by a pin *T* and the upper end is attached to the carriage at *U*. In Figs. 1, 2 and 8 will be seen the shoes *V*, *V*, bolted firmly to the back bar with grooves in the inner side cut lengthwise in which the

slides of the carriage is made to play up and down.

In Figs 1 and 2 directly below the bed is the inking drum W which supplies the inking rollers with ink.

In Figs. 1, 2, 9 and 10 to construct the inking carriage a light frame *a, a*, is formed with a slide *b, b*, at each end fitted to play loosely up and down in the shoes V. There are four knees *c*, one at each corner of the carriage (shown more clearly in Figs. 11 and 12) fitted to turn on the screws *d* said screws being taped into a boss on the carriage. There are two inking rollers *e, e*, hung in the inner extremity of the knees with journals extending through the knees and made to turn loosely therein. At each end of the carriage between the legs or the knees is a rod *f* with a collar *g* near the lower end. The lower end of said rod is made pointed and sets in a socket in the leg of the lower knee. The upper end of the rod extends into a hole made through the leg of the upper knee; around this rod is a spiral spring *h* with one end pressing against the collar and the other end pressing against the leg of the knee thereby acting on both of the collars at the same time. The use of the said springs is to give a little play to the rollers and to press them hard against the type. There is a set screw *k* at each corner of the carriage taped into and extending through the frame; the ends of said screws set against the legs of the knees for the purpose of leveling the rollers and setting them the proper distance from the type. There is a thin plate *l* extending across the end of the carriage and under the head of the screws *d*; said plate is designed for the end of the journals of the rollers to bear against. The inking rollers can be easily removed from the carriage by raising their journals above the edge of the plate *l* and slipping them lengthwise.

As the power is applied to the driving pulley or crank K the main shaft I is made

to revolve together with the cam N and crank L; and as the fixed lever F is connected by the pitman H to the crank L the rocker shaft makes a part of a revolution back and forth alternately. When the crank L is turned back on its dead center the rocker arm D is turned up at right angles with the bed and at the same time swinging the platen up to give the impression thereby forming a regular toggle of the fork lever A and rocker arm D. As the platen swings up the rods *m* force the slide *k*, down and shoves out a card to be printed. When printed the card drops off and the platen swings back to its lowest position and there rests a sufficient time for the carriage together with the inking rollers to go up and ink the type and return again. The fixtures here for card printing can be removed and the machine used for large job printing or any other work required to be done.

Having thus fully described my printing press, what I claim as my invention and desire to secure by Letters Patent is—

1. The combination of the rocker shaft *c* and rocker arm D and the fork lever A with the swing platen substantially in the manner and for the purpose herein set forth.

2. I claim for feeding cards the slide *k* and rods *m*, in combination with the swing platen substantially in the manner and for the purpose herein set forth.

3. I claim the combination and arrangement of the gage *s*, the spring *u*, the lever *v*, the trip *w*, the catch *x* and the wire *y* with the swing platen in the manner and for the purpose herein described.

4. I claim the knees *c* to support the inking rollers in combination with the spiral springs *h*, the rods *f*, the plate *l* and the set screws *k* substantially in the manner and for the purpose herein set forth.

CHARLES W. HAWKES.

Witnesses:

JAMES M. KEITH,
STEPHEN G. NASH.